



Vocational Education in Schools: A New Beginning

Interview with Dr Yogesh R Kulkarni,
Executive Director, Vigyan Ashram

Vigyan Ashram, established in 1983, has been working towards rural development through education and technology. As part of this work, the organisation has worked towards introducing vocational education rooted in the local context in schools since 1987.

Q. You have been part of the discussions around the transformation of vocational education for over two decades. What, according to you, is the current status with respect to education related to work in the school curriculum?

Vocational Education has been a largely neglected area in school education. While there is some effort, though not deliberate, around developing prevocational capacities till the primary stage, the approach in later stages is more aligned to skill development

rather than education related to vocations.

The message that hands-on activities are important in the primary stage has gone out to parents and the community; they even demand that their children be active in schools. However, as students move to Grade 6, the opportunity to work with their hands is lost. At this stage, students have many questions, inquiry-based learning should be encouraged, yet the focus remains on classroom based and textbook centred learning.

Vocational education is offered as an elective in schools from Grades 9 to 12, but the focus is on specific job roles or skilling. This is part of the reason for its poor status. Skills need a lot of time and practice for proficiency, especially at a young age, which schools cannot provide. And to assign a single job role to the student is injustice. The outcome is neither skilling nor understanding of the world of work.

This lack of focus has led to poor investment in resources and capacity building, as well as lack of research on pedagogy and assessment in Vocational Education.

While work experience, Socially Useful Productive Work (SUPW), or education about work in any other name has been part of some school curricula, it has never been taken seriously, partly because it was always a 'graded subject', with no incentive to either perform better or invest in this subject.

Q. What is the role of the National Skills Qualifications Framework in designing and implementing vocational education curricula in schools?

Post the National Skills Qualifications Framework, the same job roles have been offered in both skilling institutes like the Industrial Training Institutes (ITIs) and schools, but at a basic level. This has made the situation worse due to fragmentation of the concept of work, so much so that students are prepared only for entry level job roles in schools (e.g., helper, assistant, etc).

The National Skills and Qualifications Framework (NSQF), notified on 27 Dec 2013, is a competency-based, outcome-focussed framework for defining vocational competencies at different levels. The Framework enables certification in vocational skills.

Thus, NSQF was used as a basis for designing school curricula with good intentions, but the wrong messages have been delivered to parents. Hence, their acceptance is less.

Implicit in this approach is the belief that vocational education is needed by those who cannot study further, or those who need livelihood post Grade 10 or 12. However, this does not match the message delivered

over the past 75 odd years that education is essential and aspirational. Schools are offering livelihood through vocational education while parents are thinking about the future, for better opportunities for their children. To quote Dr Ambedkar, 'The paternal duty lies in giving each child a better start than its parents had'.

Q. What is the role of choice in vocational education?

In my observation, schools pick up vocations that do not require additional resources, for example vocational education related to computers or retail and finance. This is irrespective of the interest of students, opportunities in the community or the future of the vocation.

Hence, choices offered are few, and usually one option is provided for the entire batch. The student has to decide on a vocation at Grade 9 or at the most Grade 11 without any idea of their preference for the future or of other opportunities that exist. A student is handed over a 'choice' or influenced by the teacher so that, for example, even if they are interested in automobiles, they must pick retail. Often, only students who are considered 'good' basis their score in other subjects are allotted vocations like Information Technology (IT).

The NEP 2020 has done a good thing – it has made vocational education compulsory for all and not a choice, with the NCF-SE 2023 offering a framework comprising three forms of work, which require students to do work across life forms, machines and materials, and human services. We have tried out a similar approach in Vigyan Ashram.

Q. Could you elaborate on the approach of Vigyan Ashram to vocational education?

Dr S.S. Kalbag, the founder of Vigyan Ashram was always uneasy with the approach

of trade-based skill education at the school level. In our work, which began in Maharashtra, there was an insistence on offering students choice based on the needs of the community.

The Vigyan Ashram philosophy is that nature is the curriculum, and the needs of the community determine the syllabus. If the community needs energy, students examine what is available in the environment and are guided towards specific kinds of work – this is the syllabus. This ensures that work is related to the local context, e.g., students take up animal husbandry, taking care of goats and cows in Rajasthan, and fish in Konkan. At the same time, they use basic technology to find solutions to problems or to optimise the work of communities. With this approach, each student acquires vocational capacities in engineering, energy, agriculture, animal husbandry and home and health, while providing different need-based services to their community.

The community is expected to pay for these services, thus bringing in the quality/service dimension. Also, since the needs of the community keep changing, the syllabus keeps getting updated.

Q. Can this approach be scaled up?

At the Vigyan Ashram campus in Pabal, we pilot all the educational experiences we offer to students. It is our laboratory. We have scaled up through the 'Introduction to Basic Technology' (IBT) in secondary schools since 1987. IBT has been recognised as a subject by the Secondary School Board, Maharashtra, is and aligned with the first two levels of the NSQF as a Multi Skills Foundation Course, offered in 300 plus schools in the state.

Currently, more than 85 types of different services are provided by schools to the community as part of their curriculum,

ranging from soil testing, ensuring electrical safety to selling food items.



While not directly related to vocational education, in Andhra Pradesh, with the support of UNICEF and Samagra Shiksha, we created hub and spoke model for strengthening Atal Tinkering labs (ATLs) in each district of Andhra Pradesh, covering 700 schools. These hub schools offer demonstration and training to other schools in their district while their teachers and district science officers are master trainers. Teachers from the hub schools and We have used the same model in Telangana and Karnataka.

In Uttar Pradesh, we are supporting the state government with the help of UNICEF in implementing the 'Learning by Doing (LBD)' programme. LBD workshops have been established in 3300+ schools, and an activity book created for Grade 6 – 8 developed collaboratively with teachers. While initial training was by Vigyan Ashram, from this year onwards, DIET faculty are being trained as master trainers to build a supportive ecosystem.

Q. Any observations about the NCF-SE 2023?

As mentioned, the NCF-SE 2023 presents a framework with different forms of work. The focus is on developing broad capacities that are applicable across a form or work rather than skills. For example, soil testing and preparation, irrigation and monitoring growth are needed in a range of vocations from crop cultivation to polyhouse farming to aeroponics. Understanding how characteristics of materials impact the work that can be done with them, basic operations of machines, creating prototypes and using them to take decisions



about final products in construction, metal fabrication, and so on. Communication, determining needs, protocols related to working with people in healthcare, tourism, hospitality, etc. And, of course, following safety protocols, following environmentally friendly practices, basic costing and budgeting are common across the forms of work.

However, the risk that there will be dilution and misuse (e.g., using periods allotted for vocational education for 'core' subjects), and that states and boards will interpret the

NCF-SE 2023 in their own way is very much present.

Kaushal Bodh, the activity books for Grades 6-8 have been published, while work is going on towards developing textbooks for Grades 9 and 10. It is good that the materials have been developed so soon after the NCF-SE 2023 was released, since teachers and other stakeholders find it hard to understand curricular documents till they have a concrete example. At the same time, while the activity books and textbooks help a great deal, there is a need to showcase implementation in schools. This is a big shift in school education people will not understand or change in a day.

Q. How do you propose this showcasing be done?

This is the first time that Vocational Education is going to be implemented on such a vast scale in all schools from Grade 6 onwards.

Since local choice and flexibility are key to implementation of vocational education, given that there will be need for local resource persons and sites of work that students can observe, school heads and teachers will need support. Initial implementation could be in pilot mode to collect examples of implementation in schools across different geographies and the nature of support required.

There is an intention to develop digital materials to provide this support but that is likely to take time. Similar avenues for teacher support can be explored. It goes without saying that the government must take the lead in both dissemination and building capacity.

Q. What are your specific recommendations related to the implementation of vocational education in schools?

We must use the current momentum and roll out vocational education in schools quickly. The first priority is addressing the tool deficit.

To take vocational education ahead in schools, students should be made the flagbearers. In our experience, once tools and enough raw material reach the school, things are made despite, or even in spite of, the teacher.

Mechanisms like peer-to-peer learning, groups, clubs, etc., should be put in place. Advocacy and awareness among teachers are important – a single teacher is capable of doing a lot.

Just like a school needs a library, it needs a workshop with minimum tools and consumables. Just as a science kit is part of the school inventory, a vocational kit with basic tools and materials like spanners, hammers, nails, screwdrivers, etc must be available and used in each school, keeping safety considerations in mind.

It is also very important to change the perception of vocational education, otherwise we can forget about making any change. It must be emphasised that vocational education is not only important for earning livelihood but to develop capacities for life.

Q. Finally, Vigyan Ashram has been following the approach of Gandhiji's Nai Talim. How does the approach of NCF-SE 2023 compare to Nai Talim?

Of course, terminology changes with time but the core is the same. One important aspect of Nai Talim was community service. SUPW

was also meant to get students involved, literally, in socially useful productive work. The moment we adopt this lens, the local context automatically becomes important. The only difference is whether the work is done for a consideration or as a service to the community.

At the same time, care should be taken to ensure a sustained educational experience. For example, many schools have kitchen gardens and students work in them. But there is no structure to this work, it is simply an activity. Also, plantations drives are common – these are events, even celebrations, but do not help academically. Bagless days have value for activities but can be compared to a summer camp – they are good while they are underway, but their lasting benefit remains to be questioned.

Vocational education must be isolated from these activities and events. The structure should be such as to ensure alignment with competencies. Work itself should be ongoing, done in phases to ensure students have time to reflect, try out, improve.

Documentation, interviewing, preparing questionnaires, learning from others, implementation with resources, following different steps, values associated with the work and all these cannot be ignored as these are important for students.

If all this is done, then students will not only learn but also have fun!

Dr Yogesh R Kulkarni , has led the work of Vigyan Ashram for over two decades. He has worked closely with NCERT, PSSCIVE (constituent unit of NCERT), and several states on various initiatives related to vocational education. He is a member of the Curricular Area Group on Vocational Education, tasked with the development of materials for schools.